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July 20, 2012

BY E-MAIL TRANSMISSION

Peter M. Felitti, Esq.
USEPA Region 5
Mail Code: C-14J
77 West Jackson Boulevard
Chicago, IL 60604

Re: Detrex Corporation Source Area (OU5) – Fields Brook Superfund Site, Ashtabula, Ohio

Dear Mr. Felitti:

I write on behalf of the members of the Fields Brook Action Group ("FBAG") (excluding Detrex Corporation) in follow up to our meeting on July 10, 2012, at my office. As promised, I am transmitting with this letter a copy of the PowerPoint presentation the FBAG technical representatives made at the meeting. In addition, Bob Rule has separately transmitted to Owen Thompson the photographs of the DS Tributary that he presented during the meeting. I have also enclosed formal comments on behalf of the FBAG concerning the URS Corporation report to USEPA dated May 24, 2012, describing the results of the additional soil borings investigation at the Detrex Source Control Area. As mentioned in the meeting, the FBAG would also appreciate receiving a copy of the January 2012 letter from USEPA to Detrex relating to the DNAPL extraction well pilot study.

It is our understanding that you and Owen Thompson were meeting with representatives of Detrex on Thursday, July 12, 2012, concerning the results detailed in the URS Corporation written submission to USEPA. The FBAG would appreciate an update from you concerning USEPA's current view regarding the continued implementation of a pilot well program for the extraction of mobile DNAPL from the Detrex Source Area. As we described to you in the meeting, the FBAG is concerned that source control measures be implemented to remove DNAPL, a Principal Threat Waste,

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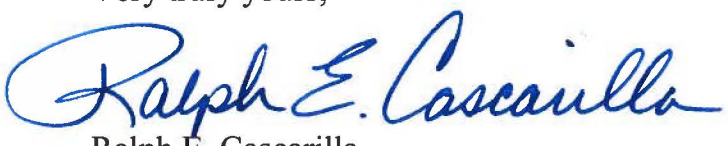
from the Detrex facility since it is a source of recontamination to Fields Brook. We have reviewed the 1997 Detrex Source Control ROD and do not discern any basis to retreat from the DNAPL removal approach described therein. The pilot well program is a logical next step in the effort to achieve a significant reduction in the volume of mobile DNAPL at the Detrex facility.

Please keep us updated concerning your timeline related to the implementation of the pilot well program. The FBAG stands ready to provide whatever technical assistance the Agency may deem appropriate related to the design, installation and operation of the pilot DNAPL extraction wells at the Detrex facility. Please feel free to send a copy of our written comments and presentations to Detrex if you deem it advisable. Finally, please incorporate our comments and presentations in the Administrative Record for this Site.

Please let me know if you have any further questions or comments.

Very truly yours,



Ralph E. Cascarilla
On behalf of the FBAG companies

REC/rd
Enclosures
cc w/enc (by e-mail transmission):
W. Owen Thompson
Robert W. Rule
Manu Sharma
Paul Tornatore

FBAG Comments on URS Report Dated May 24, 2012
Fields Brook Superfund Site, Ashtabula, Ohio

Summary

Detrex has submitted a brief letter report summarizing the results of a soil boring investigation conducted at the Detrex Facility (Site) in May 2012 to investigate the presence of DNAPL in the subsurface at the Site (URS, 2012[1], "URS Report"). As part of the investigation, a total of 14 soil borings were advanced in the former lagoon area and other portions of the Site. The URS Report concludes that "there is no evidence of thick extensive zones or layers of DNAPL anywhere on site" and that DNAPL recovery is not an appropriate remedial approach for the geologic conditions and DNAPL occurrence patterns encountered at the Site. Consequently, Detrex would like to pursue the containment approach (*i.e.*, combination of an expanded slurry wall and a passive DNAPL collection system) that they have previously presented to US EPA.

The Fields Brook Action Group (FBAG) disagrees with the findings and conclusions presented in the URS Report. The URS Report does not accurately convey the magnitude of the DNAPL problem at the Site and its conclusions are not consistent with US EPA DNAPL guidance (US EPA, 2009). Proper interpretation of data collected during this investigation and in prior studies clearly indicate that pooled (or mobile) DNAPL is present at the Site and DNAPL continues to migrate in the subsurface. Given that DNAPL is a Principal Threat Waste, it needs to be removed and treated from the subsurface, consistent with US EPA guidance (US EPA, 1991)[2]. Finally, the ROD-approved remedy, with the system modifications suggested by FBAG, remains the appropriate remedial approach to remove and treat DNAPL at the Site.

Discussion of Comments

A discussion of the key FBAG comments regarding the results and overall conclusions of the URS Report are presented in the following sub-sections:

1. **The conclusion reached in the URS Report that "there is no evidence of thick extensive zones or layers of DNAPL anywhere on site" and that DNAPL at the Site is only in discontinuous zones and has "limited vertical and lateral mobility" is a misinterpretation of the Site data and inconsistent with US EPA DNAPL site characterization guidance (US EPA, 2009)[3].**

   The Detrex report fails to corroborate the geologic conditions with the persistent accumulation of DNAPL in site monitoring wells that continues to this day, and thus misinterprets field observations and data collected during the soil boring investigation and attempts to minimize the extent of the DNAPL problem at the Site. It is well understood that the processes that promote DNAPL migration require more than the contemporaneous examination of a boring to support a conclusion that the material is neither mobile or recoverable. A review of the URS boring logs and field notes recorded by FBAG's representative at the Site indicate that 2 or more feet of DNAPL were observed at several locations at and near the former lagoon area, and that high permeability lenses exist in which product is present in sufficient quantities to be mobile and thus

[1] URS. 2012. Letter to W.O. Thompson (US EPA) re: Results of Additional Soil Borings Investigation Detrex Source Control Area – Fields Brook Superfund Site. 4p., May 24.
[2] US EPA. 1991. "A Guide to Principal Threat and Low Level Threat Wastes." National Technical Information Service (NTIS) Publication 9380.3-06FS ; NTIS PB92-963345. November.
[3] US EPA. 2009. "Ground Water Issue: Assessment and Delineation of DNAPL Source Zones at Hazardous Waste Sites." Office of Research and Development, EPA/600/R-09/119. 20p., September.

recoverable. In addition, DNAPL was observed in 9 out of 14 borings advanced over an approximately 6 acre area. Although soil borings are not the ideal investigative tool for defining the extent of DNAPL (due to the limited size of a bore hole and the high probability of a "miss"), the presence of DNAPL in the vast majority of soil borings, several with more than 2 feet of DNAPL, is clear indication that a significant amount of DNAPL is present at the Site.

Another line of evidence that is consistent with the presence of a significant amount of mobile DNAPL at the Site is the accumulation of several feet of DNAPL (up to 13 feet) in monitoring and/or DNAPL recovery wells. US EPA DNAPL guidance (2009) states that:

> "…residual DNAPL will not enter monitoring wells, implying that the accumulation of DNAPL in a well indicates the presence of pooled DNAPL in the formation"
>
> "DNAPL obtained from the bottom of a monitoring well or as an emulsion from a pumped water sample is conclusive evidence of DNAPL presence (pooled DNAPL)"

Consistent with US EPA guidance, the presence of feet of DNAPL in monitoring and/or recovery wells at the Site is irrefutable and clear evidence that DNAPL pools are present at the Site. In addition, the continued migration of DNAPL into recovery wells, under passive conditions (*i.e.*, without any active groundwater extraction), provides further indication that DNAPL at the Site is mobile and does not exhibit "limited vertical and lateral mobility" asserted in the URS Report. Overall, Detrex's conclusion that no mobile DNAPL is present at the Site is inconsistent with US EPA guidance and a misinterpretation of the available data.

2. **Detrex DNAPL is a Principal Threat Waste that needs to be removed and treated from the subsurface, consistent with US EPA guidance (US EPA, 1991).**

   As rightfully acknowledged in the SCOU Record of Decision (ROD) (US EPA, 1997)[4], Detrex DNAPL meets US EPA (1991) criteria for Principal Threat Waste, defined as material that is: "highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur" (US EPA, 1991, p. 2). Given the high toxicity and mobility of the Detrex DNAPL and the significant amount of DNAPL present at the Site, the emphasis placed by the ROD on removal and treatment of DNAPL in the Detrex source area was appropriate. The FBAG believes that active and aggressive treatment of the Principal Threat Waste (*i.e.*, Detrex DNAPL source areas) should be a critical component of the remedy for the Detrex facility in order to mitigate continued off-site migration of DNAPL, and continued contamination of DS Tributary and Fields Brook.

3. **The FBAG remains convinced that Detrex should implement the ROD-selected remedy of aggressive DNAPL extraction and treatment, since it is consistent with US EPA's guidance for a Principal Threat Waste (Detrex DNAPL) that continues to pose a threat to the DS tributary and Fields Brook. In addition, the supplemental characterization provided evidence of DNAPL bearing permeable lenses as anticipated by the conceptual design and system modifications recommended by the FBAG.**

   The URS Report states that DNAPL recovery is not appropriate for the Site because the geologic formation is "not conducive for extracting significant quantities of either groundwater or DNAPL impacted fluids." The URS Report appears to assume that the low permeability of the sub-surface deposits limits the ability to effectively remove DNAPL, when they should be considering the ability to access and manipulate conditions in the high permeability lenses that facilitate movement of DNAPL at this Site. In addition, the low yield of the formation will allow for low

[4] US EPA. 1997. "Record of Decision for the Source Control Operable Unit of the Fields Brook Superfund Site, Ashtabula, Ohio." September.

groundwater recovery rates, thus minimizing the costs associated with water storage, treatment, and disposal. As previously indicated in FBAG comments (Gradient, 2011)[5], the geologic conditions at the Site are not limiting factors for the implementation of a successful remedial solution at the Site. Rather, the limited pilot-scale system operated at the Site to-date has had operation difficulties due to the poor design and the intermittent nature of operations.

We strongly believe that a properly designed system, which utilizes the appropriate equipment, (*i.e.*, large diameter recovery wells with screen intervals limited to the permeable zones, high-vacuum and low-flow pump, interface probes, *etc.*) and applies the required amount of vacuum to the formation, could be used to ensure that groundwater and DNAPL recovery rates were compatible with the yield of the formation, while inducing gradients that restrict future lateral migration. Overall, if the DNAPL recovery system is properly designed and operated, DNAPL recovery can be effectively accomplished even in low permeability settings by focusing extraction on the heterogeneities observed in the exploration program. In addition,

We recommend that Detrex proceed with the proposed plan to perform a DNAPL recovery pilot test. As previously suggested (Gradient, 2011), Detrex should submit an updated work plan for review that includes relevant details, such type of equipment, test duration, and data collection plan. The FBAG would like an opportunity to review and comment on the updated work plan prior to implementation.

[5] Gradient. 2011. "FBAG Comments on Proposed ESD for Detrex Corporation Source Area (OU5) Fields Brook Superfund Site, Ashtabula, Ohio." 17p.

Comments on Detrex Source Investigation

Fields Brook Superfund Site

Meeting with EPA

July 10, 2012

Detrex 2012 Source Investigation

- Conducted MIP investigation and soil borings
  - 48 MIP locations and 20 soil borings

- Two key conclusions:
  1. “there is no evidence of thick extensive zones or layers of DNAPL anywhere on site”
  2. DNAPL is only present in discontinuous zones and has "limited vertical and lateral mobility"

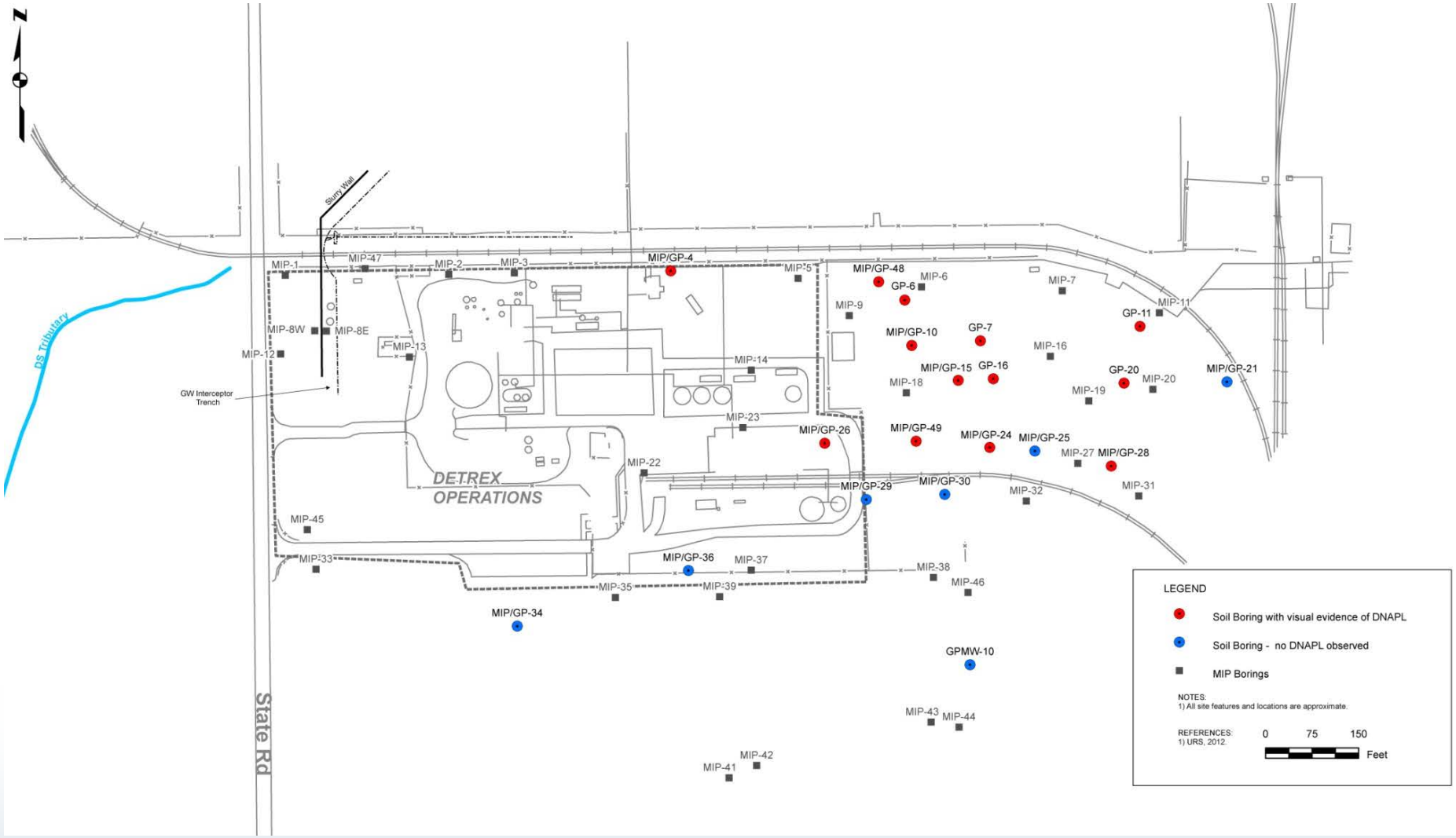
Detrex Source Investigation Conclusions are Misleading and Not Consistent with Results

- Detrex conclusion that "there is no evidence of thick extensive zones or layers of DNAPL anywhere on site" is not consistent with the study's findings
  - Although borings are not the ideal DNAPL investigation tool, DNAPL was found in 13 out of 20 borings
  - At least 2 feet of DNAPL seeps/sheens/ganglia discovered at several locations (e.g., GP-15,-16,-48)
  - Strong evidence indicating presence of significant amount of DNAPL on Detrex property

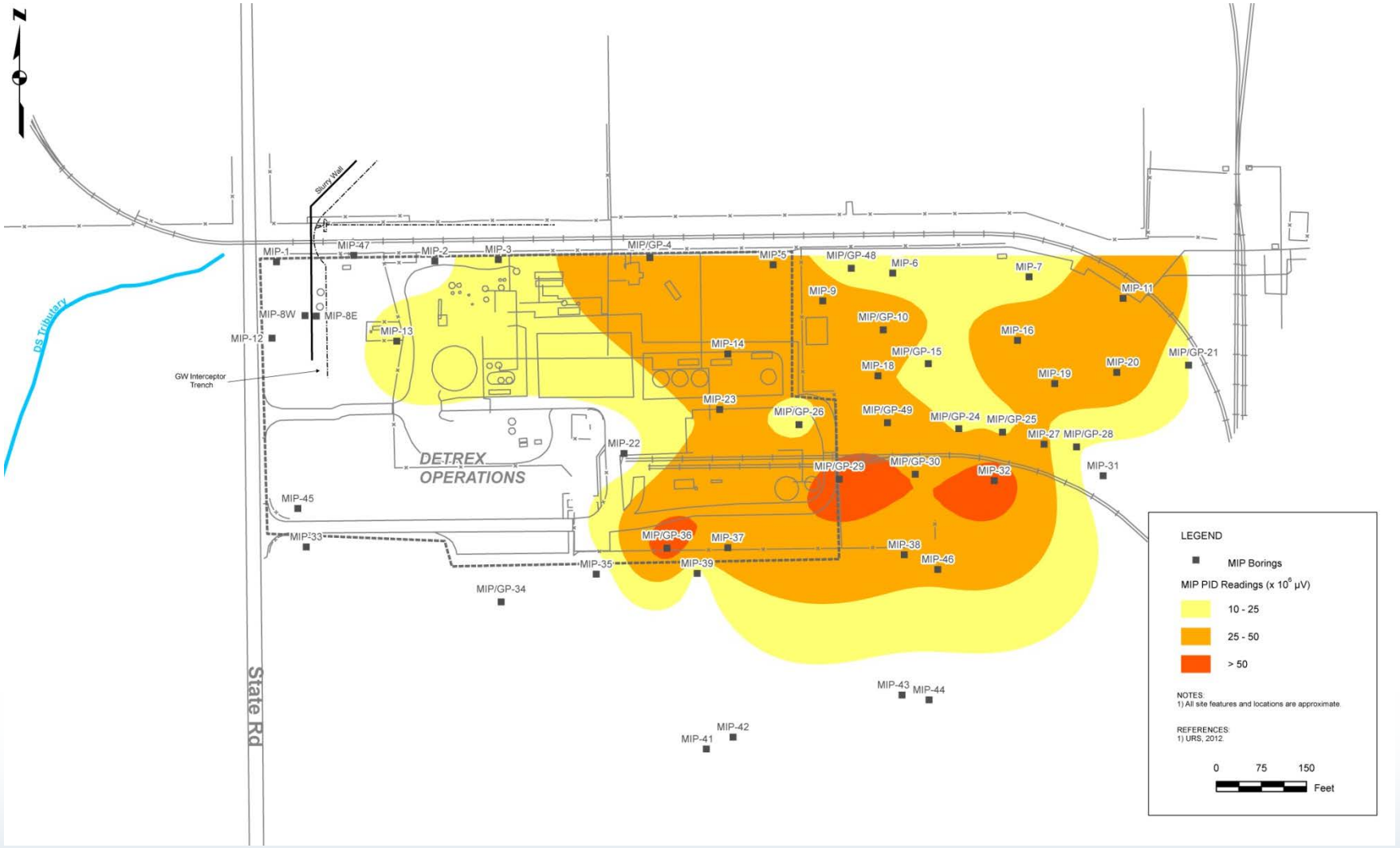
Detrex Source Investigation Conclusions are Misleading and Not Consistent with Results

- Detrex's conclusion that DNAPL is only present in discontinuous zones and has "**limited vertical and lateral mobility**" is a misinterpretation of the Site data and inconsistent with US EPA guidance
  - US EPA DNAPL guidance (2009) states that "…residual DNAPL will not enter monitoring wells, implying that the accumulation of DNAPL in a well indicates the presence of pooled DNAPL in the formation"
    - Accumulation of several feet of DNAPL in monitoring wells clearly indicates that mobile DNAPL is present
  - Borings found high permeability lenses containing mobile DNAPL – which is recoverable

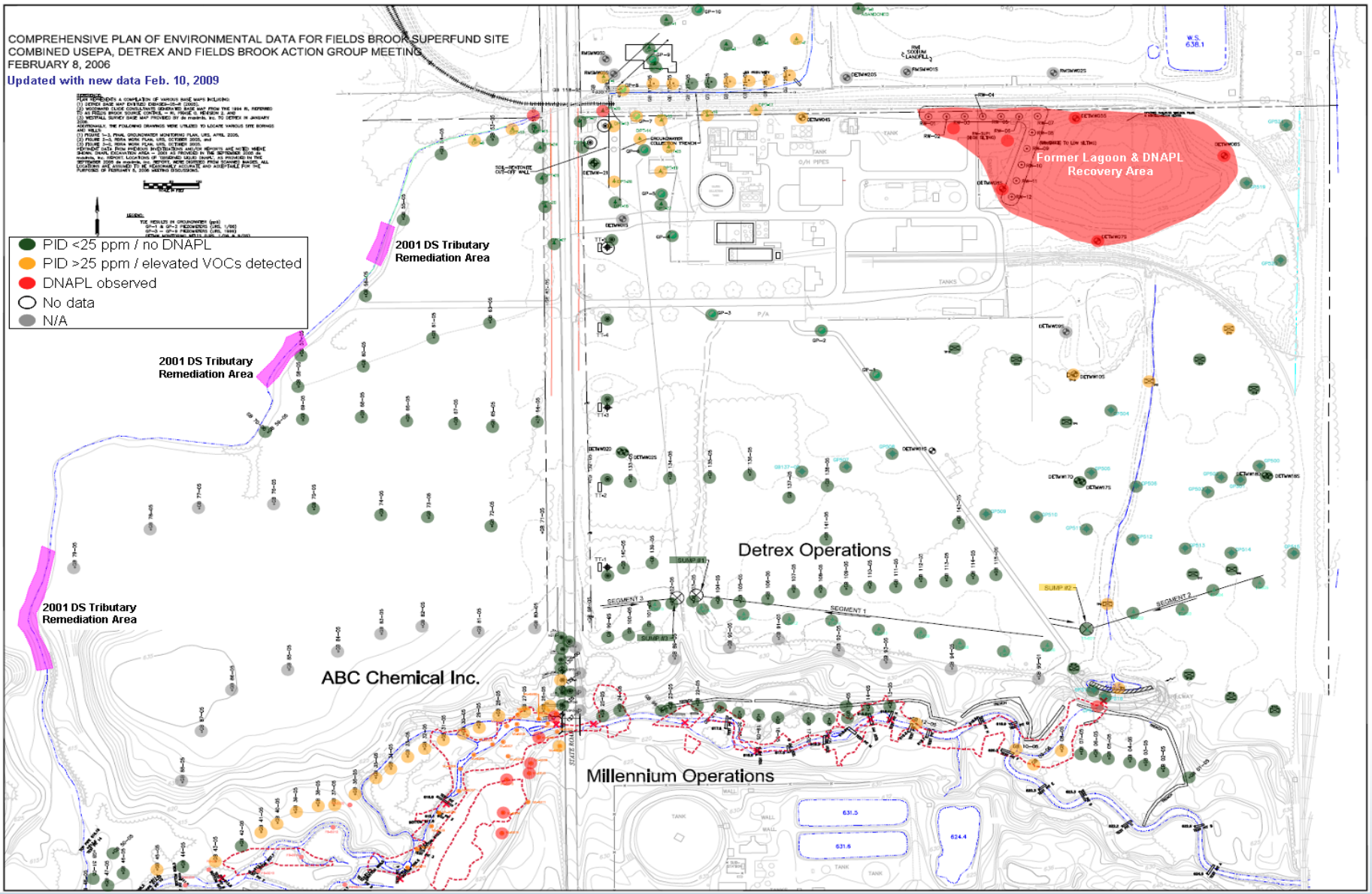
Locations of Soil Borings with Visual Evidence of DNAPL



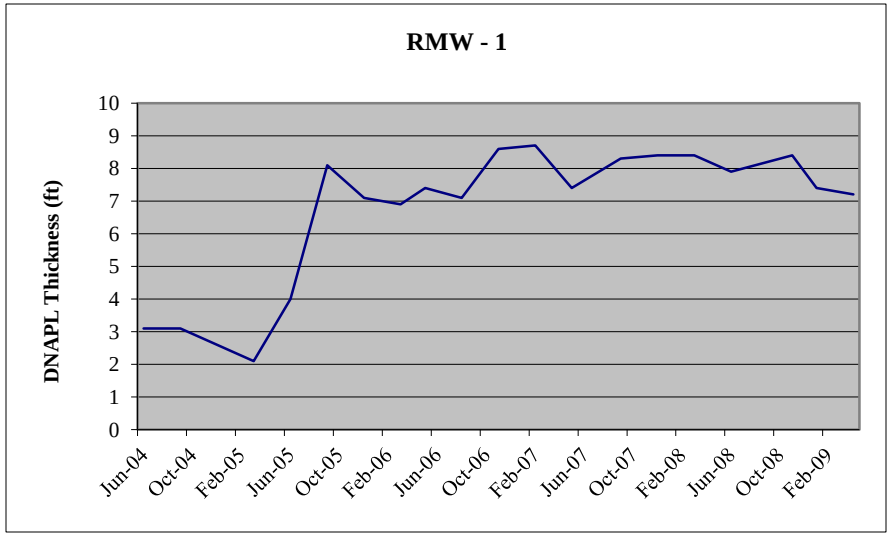
MIP Survey Results



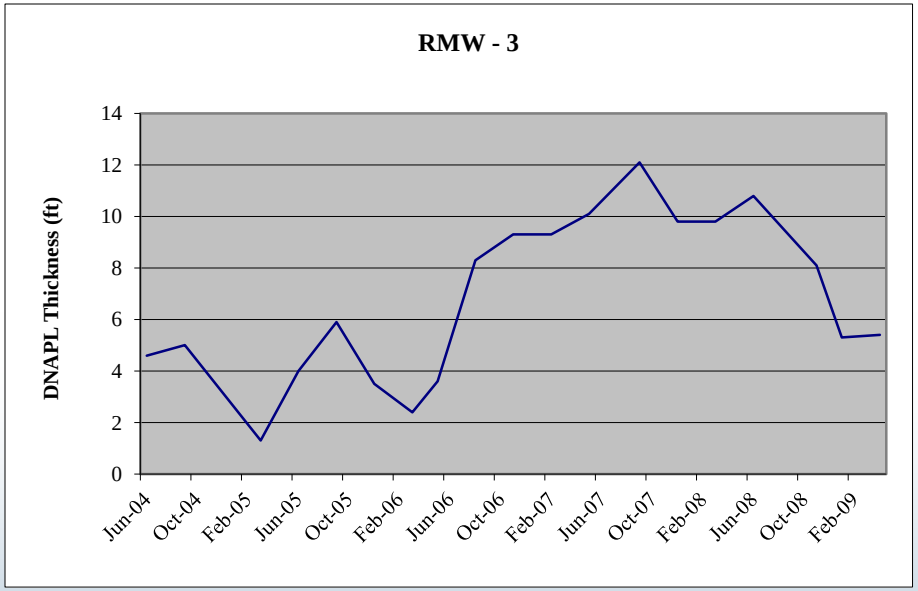
Source Investigation Findings are Consistent with Prior Data (slide 4 of Detrex February 10, 2009 presentation)



DNAPL Accumulation in Detrex Monitoring Wells



- Persistent accumulation of several feet of DNAPL in monitoring wells indicate the presence of a significant volume of mobile DNAPL on the Detrex property



FBAG Conclusions

- Source investigation results confirm that significant quantity of recoverable DNAPL is present at the Detrex facility
  - DNAPL found in a majority of soil borings
  - MIP results define spatial extent of source area
- Detrex DNAPL is a Principal Threat waste – as discussed in the ROD and Five Year Review – and needs to be removed and treated
- Detrex should implement the ROD remedy of aggressive DNAPL removal and treatment